Chapter I. *Introduction*

A. What is the purpose of this document?

This document has three major purposes:

1. To encourage the development of regionalized community-focused health care delivery systems[1] and networks[2] to support community health status improvement. These systems or networks need to be:
    - accessible by vulnerable populations;
    - high quality; and
    - cost-effective in terms of health outcomes.
2. To establish principles and priorities to promote collaboration, cooperation and integration of health services—from prevention to long term care—by public and private providers.
    - Collaboration, cooperation and integration are the preferred means to achieve efficient and effective regional health services delivery systems and networks.
    - These systems and networks need to meet peoples' health and wellness needs as they change over time and life circumstances and foster maximum positive health outcomes for all.
3. To provide planning and policy guidance when:
    - allocating scarce resources among competing interests;
    - exercising regulatory authority; and
    - promoting changes in the health care system.

B. What is the legal basis for this document?

1. Historical Foundation. The State of Hawai`i has had a long-standing commitment to health planning, as expressed in its statutes:

- 1945: JR 12, Creating a Territorial Hospital Service Study Commission (to make a comprehensive study of hospital and burial services and costs in the Territory).
- 1951: Chapter 41A, RL. Hospitals and Medical Care (became Chapter 48, RL 1955) (study conditions, programs, procedures for medical care of the indigent and medically indigent, and problems relating to hospital construction).
- 1957: Chapter 48A, HRS. Hospitals and Medical Facilities Construction (became Chapter 323, Part II, HRS 1968) (surveying the need and developing a program of construction for hospitals and medical facilities).
- 1967: Executive Order-established State Comprehensive Health Planning Office and State Advisory Council for Comprehensive Health Planning.
- 1974: Chapter 323, Part III, HRS. Planning for Health Care Facilities and Services (formalized in statute the Comprehensive Health Planning Agency for the planning of health care facilities and services in the State).
- 1975: Chapter 323D, HRS. Health Planning and Resources Development (replaced

the Comprehensive Health Planning Agency with the State Health Planning and Development Agency [SHPDA] to conduct health planning and development of health delivery systems; also established the Statewide Health Coordinating Council [SHCC] to advise the State Agency).

- 1976: The Governor-appointed Subarea Health Planning Councils (SAC) were established (providing the foundation for the present comprehensive planning with citizen input).
- 1977: The SHCC was given the responsibility to prepare, review and revise the state health plan (which takes on the force of law when it has been duly adopted by the SHCC through the public hearing process).
- 1978 to 1989: Chapter 323D, HRS, underwent additional modifications, some of which were the result of federal deregulation of health planning.
- 1997: Act 336 re-defined the Agency's principal function as: "promoting accessibility for all people of the State to quality health care services at reasonable cost." It also streamlined the process for the Certificate of Need, an implementing tool for the plan, to be more in keeping with the change in the health care environment from dominance by fee-for-service to a growing presence of managed care.

2. Statutory Purpose. This document finds its legal basis in the current Hawai`i Revised Statute describing the purpose of the State Health Planning and Development Agency (SHPDA) and its plan requirements:

> "The purpose [of the Agency]...is...to promote *accessibility* for *all* the people of the State to *quality* health care services at *reasonable cost*." (§323D-1, HRS) (Emphasis added.)

3. Statutory Plan Requirements. The *Hawai`i Health Performance Plan* (H2P2*)*, known formally in statute as the *Health Services and Facilities Plan* (HSFP) is required to:

> "…*address the health care needs of the State*, including *inpatient care, health care facilities, and special needs*. The plan shall *depict the most economical and efficient system* of care commensurate with *adequate quality of care*, and shall include *standards for utilization of health care facilities and major medical equipment*. The plan shall provide for the *reduction or elimination of underutilized, redundant, or inappropriate health care facilities and health care services*." (§323D-15, HRS) (Emphasis added.)

C. What was the process for developing this document?

This document is the result of extraordinary collaborative volunteer efforts by providers and consumers of health care services across the State. These efforts were channeled through the SHCC's Plan Development Committee (PDC), and through the regional SACs.

1. SHCC-PDC Contributions. The current PDC began its work in September 1996 with 25 members representing the major hospital and health plan systems, SACs, businesses, and health-related organizations. By the FY 1998 term, it had grown to 31 members and eight alternates and associated resource persons.

PDC members set the direction for the new plan, with further refinements arising out of the work on the first prototype chapter. The chapter topics were selected primarily based on their relationship to the leading causes of death, disability, and premature loss of productive life in Hawai`i and to the establishment of lifelong health and wellness.

PDC members from the major hospital systems and health plans served as facilitators for initial development of the nine chapters dealing with specific diseases or health concerns. The facilitators consulted resource experts and convened task groups to assist in the development of performance measures and related content of the chapters. They also made presentations to the SACs around the State to help them understand the content and direction of the chapters and to solicit specific regional input. Chapter facilitators made presentations to the Governor and his staff to acquaint them with the new directions being taken by this plan.

As part of the development of the capacity thresholds in Chapter II - *Vision and Guiding Principles*, a survey was made of 27 other states with population sizes similar to Hawai`i's or with significant portions of their population categorized as rural by the U.S. Census. Seventeen states responded—three had no state plans, and 14 had applicable formulas and criteria. A modified Delphi technique was used to make the threshold selections for the chapter.

2. SAC Contributions. Simultaneously with the PDC members' chapter development activities, SACs engaged in reaching out to key stakeholders in their regions to learn more about the local health care strengths and areas for improvement. SAC members heard presentations and gathered data to help profile their regions. Using the compiled data and the stakeholder information, the SACs contributed chapter content on key factors impacting performance measures, local health care issues, and shared values and priorities for their regions.

The three Neighbor Island SACs conducted “Values/Priorities Work Sessions” as part of the development of Chapter III – *Statewide and Regional Priorities*. Each session had between 25 and 30 participants from the local health care system and the general community. The two Garden Island Health Planning committee members who facilitated the Kaua`i work session also facilitated the sessions for Maui and Hawai`i. In addition, representatives from various SACs visited other Neighbor Island and O`ahu SACs to share information and gather ideas to support the planning process.
The Tri-Isle SAC and its Plan Development Committee also conducted a survey to get an impression of what the community believes is important regarding health problems, access to care, and top health issues for Maui County. The survey was distributed to community

members, ranging from low to high-income individuals, at health fairs, physicians' offices, businesses, etc. in the seven regions of Central Maui, East Maui, West Maui, South Maui, Hana, Molokai and Lanai. About 400 individuals, the majority of whom were consumers, responded to the survey. The results confirmed the top priorities that came out of their values/priorities work session.

D. What are some of the health planning issues for Hawai`i?

1. The Changing Paradigm. The growing attention to health care reform in the 1990s has resulted in increased awareness of and emphasis on quality and value in health care delivery. Quality goes beyond simply the assurance of a minimum acceptable level of quality to the continuous improvement of the overall, or average, performance of individuals and organizations. Patient preferences and satisfaction become part of determining health outcomes.

Health services and organizations now are expected to provide value to all their constituents and to the community they serve. Value is the product of the interrelationship of quality, cost, and efficacy—the appropriateness or effectiveness of what is done. In the past, efficacy has not always been considered in relation to health care, but it is becoming central to an effective and efficient system of care. This emerging emphasis on quality and value has created a movement away from the traditional focus on structure and process toward a focus on outcomes or results. Accountability is becoming a key strategic initiative for health care organizations in creating and demonstrating added value.

Along with the emphasis on quality and value, there are other related shifts in basic assumptions about health care. The need for medical cure that dominated earlier health care thinking is growing less important than the need for total health care. Health care needs to be a continuum, just as a healthy life is a continuum from conception to death, rather than a vacuum punctuated by episodes of illness. For the health care system to maintain a person's state of health, it should interfere as little as possible with the tasks and roles required for everyday living of those it serves. Thus, ambulatory or home care becomes the preference, with institutional care only for biological necessity. The integration of effective preventive services with acute and chronic services is seen as the preferred strategy to make a major contribution to health care cost containment.

Other shifts in the health care paradigm include a refocus on networking as a means of integration. Hospitals are shifting from managing the bottom line in the disease business to being community resources, working with community allies to improve community health status. There is a movement from competition to collaboration, including new relationships among traditional health care providers, schools, churches, social agencies, transportation, and other community providers. There is also a movement from "curing" to "healing,"—which integrates science and spirituality. The shift to healing is accompanied by the growing presence of alternative and complementary medicine, which are seen as having cost reduction potential.

The traditional system of health care focuses on disease. Yet, if all diseases were cured, the population would not experience a high-level of health, which is more than the absence of disease. To promote health, the whole community must be involved, with efforts concentrated on the early years of life and the locus of services the neighborhood and family.

Primary care, delivered where the people are, is seen as the key strategy to health improvement.

The emerging paradigm shifts from physician-centered care to patient- and family-centered care. This shift carries an obligation to make full information available so that the patient can make a fully informed choice in keeping with his or her best interests. The role of the health professional thus becomes that of guide, coach, mentor and friend, and information technology becomes key to delivering medical knowledge to the physician's office or the patient's bedside.

The emerging paradigm assumes that communities will become healthier because local citizens organize themselves to produce that outcome. Health, in the final analysis, is a local affair, with state and federal government as important allies but not capable of generating the changes in behavior that are needed at the local level. The way that local health care systems will undergo significant change is to have local people come together to build a useful system.

The challenges facing the current system of care are the reformation of the medical care delivery system and the design of a health system. The basic premise upon which a redesigned system rests is that it is better to prevent a disease than to treat it. The best chance of improving overall population health status is to make primary care, health education, lifestyling, etc., available to all where they live, work, study, and engage in other life activities. Sanitation, nutrition, lifestyle, education, and income are the major predictors of morbidity in a population. The presence or absence of a medical care system plays a more minor role.

Finally, the emerging paradigm moves from a procedure orientation to an outcome orientation. Society is beginning to demand results for the money and effort spent in meeting its needs, including health care. Medical interventions with demonstrated value-added outcomes are becoming the preferred approach. Thus, critical pathways and clinical outcome analyses are becoming important factors in reorganizing the delivery of medical care.

With these shifts in assumptions, the emerging paradigm in clinical care calls for care that is: primary care focused; proactive in promoting and maintaining health; and based on interactive dialog between the care provider and the consumer. The new care model is outcomes driven in response to consumer needs and expectations. It is focused on providing high quality, cost effective care through an integrated delivery system. In this model, the physician becomes a team member, with the team and the organization committed to quality improvement. Partnership between health care providers, health care consumers, and the community becomes the desired operational strategy.[3]

2. The Emerging Community Model. The health care system has evolved from the post-World War II "cottage industry" of many small physician practices and local community hospitals to present growth of organized delivery systems, concentrating on regional or local markets. Now there is a re-framing of health care delivery as community-oriented health systems designed to optimize the health of the population, and accountable to the communities they serve. Key in this re-framing is the elevation of prevention services and primary care to the hub of the system, with secondary and tertiary care in a supportive role. The next evolutionary stage is expected to be community health care management systems,

which will be organized delivery systems that begin to focus on community-wide health care needs through alliances, coalitions, linkages and partnerships with public, private, and voluntary agencies and organizations.

The community-based health network or system is grounded in primary care. Primary health care providers, health care facilities, home health providers, mental health agencies, public health agencies, emergency medical services, and other health care providers are all linked together, with local accountability. Good patient health outcomes are the product of this complex network of provider sites, social services, and intermediaries such as informal caregivers and advocates.

The community health care network is the formal and informal relationships that exist between disparate providers. The movement of the consumer or patient between the service providers is the link. Quality care cannot be provided unless this network functions effectively in coordinating services for the consumer or patient, and provides a continuous flow of services needed by the patient throughout the episode of care. Linkages are especially important for those community members with chronic diseases or children with special health needs. Community-wide action ensures that changes to the existing health care systems improve, and not undermine, the quality of care.[4]

**3. Hawai`i as a Place.** The State of Hawai`i is made up of seven inhabited, and one uninhabited, principal islands. An additional 114 minor islands complete the Hawaiian archipelago. Hawai`i lies in the Pacific Ocean, over 2,300 miles from San Francisco.

The major islands are divided into five counties:

- City and County of Honolulu (island of O`ahu);
- County of Kaua`i (islands of Kaua`i and Ni`ihau);
- County of Maui (islands of Maui, Moloka`i, and Lana`i);
- County of Hawai`i (island of Hawai`i or the "Big Island"); and
- County of Kalawao (the portion of Moloka`i island comprising the Kalaupapa settlement for persons with Hansen's Disease. The mayor of this county is the State Director of Health.)

Commercial barges travel inter-island to deliver goods and merchandise, and at times limited ferry services have operated between the three islands of Maui County. However people transportation between islands for business, recreation, and health care is almost entirely by air.

Approximately 90 percent of The State's 6,423.4 square miles of land area is designated rural:

- O`ahu has 9.3 percent of the total land area; 67 percent of its land area is classified rural.
- Hawai`i has 62.7 percent of the land area; 91.9 percent is classified rural.
- Kaua`i has 9.7 percent of the land area; 90.3 percent is classified rural.
- Maui and Kalawao Counties have 18.25 percent of the land area; 91.8 percent is classified rural.[5]

The rural nature of the islands combined with mountainous topography contributes to isolation not only between islands, but also between communities on the same island. O`ahu is the only island with an extensive public transportation system, yet travel from rural areas of

the island remains difficult and time-consuming. For the other principle islands without extensive public transportation, access to services is even more prob lematic for the rural populations. For example, the community of Hana on Maui Island is separated from the island's major population center by over 50 miles of narrow, winding road that frequently becomes impassible in heavy rainstorms. Weather conditions also periodically shut down the town's limited commuter air service, leaving the residents at times with no means of access to outside services.

The Hawaiian Islands enjoy a mild, trade-wind climate (in 1996, average temperature was 78.6, and rainfall was 33.12 inches). However, on occasion they also are subject to adverse climatic conditions such as tsunamis, earthquakes, hurricanes, and volcanic eruptions. The last tsunami (1975) and the last earthquake (1997) were on the island of Hawai`i. The most recent hurricane, which devastated Kaua`i, was in 1992. That island is still recovering from the hurricane's destruction. The most recent volcanic eruption, which continues to this day, began in 1983 on the island of Hawai`i. The eruption has destroyed over 500 homes and contributed more than 500 acres to the area of the island. Climatic conditions such as "vog" (volcanic smog), humidity and abundant rainfall can aggravate some health conditions, such as allergic reactions and upper respiratory conditions, e.g., asthma.

4. Hawai`i's People.

a. Numbers, Age, and Ethnicity. The 1997 estimated population of the State was 1.1866 million, a 7.1 percent increase from the 1990 census. Approximately 11.9 percent of the population resides in Hawai`i County; 10.0 percent in Maui County; 73.3 percent on O`ahu; and 4.8 percent in Kaua`i County. Statewide, the fastest growing county in 1990-1997 was Maui at 18.3 percent, followed by Hawai`i at 17.6 percent. O`ahu population grew by 4.0 percent, while Kaua`i grew by 10.3 percent. The districts with the greatest population growth statewide (1990 to 1995) were Puna, South Kohala and Ka`u on the Island of Hawai`i; and the Island of Lana`i. On O`ahu, the areas with the most growth were Wahiawa and Ewa.[6]

The median age for Hawai`i has been steadily increasing, from 32.7 in 1990 to 35.1 in 1996.[7] The age groups showing the most increase in growth from 1980 to 1996 were 75+ (136.59 percent), followed by 65-74 (80.61 percent), 20-64 (19.91 percent), and 0-4 (17.23 percent).[8] Figures from the 1990 census and from population estimates for 1996 show Kaua`i and Hawai`i Counties having a greater proportion of population age 65 and over than the State proportion. The 1996 population estimates also show Hawai`i, Maui and Kaua`i counties leading in the proportion of population under age 20. [9]

Population projections for the year 2000 place the State's total population (including military and dependents) at 1.238 million, with a median age of 35.9. The elderly (age 65+) will constitute 13.4 percent of the population and the young (age 0-19) will make up 28.1 percent. By the year 2005, the population is expected to increase to 1.304 million, with a median age of 36.4. The elderly will make up 13.7 percent of the population and 27.2 percent will be the young.

Population projections excluding military dependents show a slightly different picture. Total "other civilian" population for the year 2000 is 1.1302 million, with a median age of 38.2. The elderly make up 14.5 percent of the population while the young are 27.4 percent. For the year 2005, the projected "other civilian" population is 1.1957 and the median age is 39.3.

The elderly comprise 14.9 percent and the young 26.7 percent.[10]

The ethnic stock of Hawai`i is heterogeneous, with no one group having a majority. The U.S. census category of "Asian and Pacific Islander" is by far the largest combined group in the State (58.4 percent) and in each of the Counties (ranging from 52.7 percent for City and County of Honolulu to 90.8 percent for Kaua`i). This group includes Japanese, Chinese, Filipino, Korean, Samoan/Tongan, and Hawaiian/Part-Hawaiian. Estimates for the 1996 population place the proportion of Hawaiians/Part-Hawaiians at 20.6 percent for the State. The proportion of Hawaiians/Part-Hawaiians exceeds the State average for Hawai`i County (26.6 percent), Kaua`i County (22.5 percent), and Maui County (23.2 percent).[11]

b. Economics. The largest proportion of the gross state product (1994 data) has been from the finance, insurance and real estate industry, followed closely by the service industry (hotels, health services and other services). The next largest shares were from the federal government; transportation, communication and utilities; and state and local government.[12] The economic climate of the State has been in decline over the past several years. Part of this decline is attributable to the loss of the sugar and pineapple industries, along with a downturn in construction and a tentative tourism market.

Estimates for 1995 placed approximately 10.3 percent of Hawai`i's population below federal poverty levels. However, this figure is an understatement, as official Hawai`i thresholds are approximately 15 percent higher than those on the Mainland.[13] Hawai`i County falls below the State level in per capita income, and exceeds the State proportions of population below 200 percent of federal poverty level. Kaua`i and Hawai`i Counties lead in unemployment. Hawai`i County exceeds the State rate of adults with no high school diplomas, and households receiving financial aid and food stamps.[14]

c. Health Status. Hawai`i's resident population as a whole enjoys a life expectancy that exceeds that of the U.S. (78.85 years vs. 76.1 for all races and both sexes).[15] The resident population has the lowest age-adjusted overall death rate in the country, and is the fifth lowest in infant mortality.[16] The State has been ranked fourth in the nation for overall health rankings[17]. The State's residents as a whole enjoy more favorable rates than the U.S. average within the CDC Consensus Set of 18 Health Status Indicators. Exceptions to this favorable position occur for the incidence of measles and tuberculosis. The stroke death rate is comparable to the U.S. average.[18] These general favorable statistics mask the fact that there are geographic areas, as well as age and ethnic sub-groups that do not fare as well, and which present special challenges for the health care system.

The leading causes of death for Hawai`i residents in 1996 were diseases of the heart, and malignant neoplasms, with unintentional injuries and cerebrovascular diseases a more distant third and fourth. These four conditions combined accounted for 66 percent of all the deaths in 1996. Motor vehicle injuries showed the only rate increase among the top four causes of death over a ten-year period; they were also the leading cause of death for children and young adults from age 5 to age 24.[19]

The burden of disease on a population includes not only the number of deaths but also the impact of premature death and disability on the population. The five leading causes of the greatest number of Years of Productive Life Lost were, in order, all unintentional injuries, malignant neoplasms, diseases of the heart, conditions originating in the perinatal period,

and suicide. These accounted for 62.1% of lost years of productive life. HIV infection, homicide/legal intervention, cerebrovascular diseases, ill-defined conditions, and congenital anomalies made up the remainder of the top ten causes of productive years lost.[20]

Other Indicators of Hawai`i's health, based on published data from the *Health Surveillance Survey*,[21] include:

- The **prevalence of chronic** conditions: Hypertension and asthma are among the top five chronic conditions for Hawai`i's residents. Diabetes and "heart condition" are among the top ten chronic conditions. However, the chronic condition that showed the greatest rate of increase (49 percent) over a four-year period from 1989-1992 was malignant neoplasms. Provisional prevalence data for 1996 show significant increases from 1992 in statewide rates for diabetes, hypertension and asthma.[22]

  Prevalence rates vary by geographic area. For example, Wai`anae has the highest prevalence rates for malignant neoplasm and diabetes, and is third highest for mental disorders. Kaua`i has the highest rates for mental disorders and asthma, and is second highest for diabetes, heart conditions and hypertension. Windward O`ahu is second highest for malignant neoplasms and asthma and third highest for diabetes.

  Ethnic groups also show variation in prevalence rates. Japanese and Caucasians show the highest prevalence rates for malignant neoplasms and heart disease. Japanese, Filipinos, and Hawaiians/Part Hawaiians have the highest rates for diabetes. Mental disorders are more prevalent among Caucasians and Hawaiians/Part Hawaiians, while hypertension is more prevalent among Japanese, Filipinos, and Hawaiians/Part Hawaiians. Asthma rates are highest for Hawaiians/Part Hawaiians, Caucasians and Filipinos.

  For the most part, the age groups 45-64 years and 65+ years tend to have higher than average prevalence rates for the noted conditions. However, the "Under 17" age group has a higher than average rate for asthma, while the 17-44 age group has higher rates for impairment of the back or spine and mental/nervous condition.

- **Activity limitation** status due to chronic conditions: For those persons with chronic conditions, including both sexes and all ages, about 4.3 percent are unable to carry on a major activity. Males of all ages tend to have higher proportions of major activity limitation than females, and the proportions for both sexes increase substantially with age.

  The inability to carry on a major function is proportionately greatest for those persons of all ages with a chronic condition whose family income is under $5,000. The proportion decreases with the rise in income. Although generally persons in the age groups 45-64 and 65+ tend to have higher than average rates, regardless of income, persons 17-44 years of age also have higher than average rates of limitation in three income groups: under $5,000; $5,000-$9,999; and $15,000-$19,999.

- Incidence of **acute conditions**: For all acute conditions, Central O`ahu, Windward O`ahu, Kaua`i and Maui County have the highest overall rates. The rate of injuries is highest for Wai`anae, Kaua`i and Windward O`ahu. The overall rates are higher than average for the "Under 17" age group, as well as for Caucasians and Hawaiians/Part

Hawaiians. The most frequently occurring acute conditions are respiratory conditions. Injuries occur at higher than average rates for Central O`ahu, Wai`anae, Windward O`ahu, and Kaua`i County.

Hawai`i's residents sometimes engage in certain behaviors that are major contributors to illness, disability, and premature death. Some of the leading health risk behaviors for adults include:

- Smoking Rate: 22 percent of adults are regular smokers. The rates for the Neighbor Islands are somewhat higher (24 percent). Rates for males, age groups 35-54, and Caucasians and Hawaiians/Part Hawaiians are also higher than the state rate.
- Excessive Drinking Rate: 27 percent of adults engage in acute (binge) drinking. The rate for O`ahu is higher (30 percent) than for the Neighbor Islands. Rates are higher for males, for age group 18-24, and for Caucasians and Hawaiians/Part Hawaiians. Chronic drinkers (more than 60 drinks/month) comprise 8 percent of adults. Rates are higher for males, for age groups 18-24 and 45-64.
- Overweight Rate: 27 percent of adults are 20 percent or more above "ideal weight. Males, age groups 25-34 and 45+, and Hawaiians/Part Hawaiians tend to be at higher risk.
- Seat Belt Use Rate: 4 percent of adults do not use seatbelts regularly. The rate is higher for Hawai`i and Moloka`i/Lana`i. Males and age groups 18-34 and 65+ were at higher risk.
- Persons engaging in one health risk behavior were more likely to engage in one or more other health risk behaviors as well.[23]

Risk behaviors for school age youth include:

- Smoking Rate: 32.4 percent of students had smoked cigarettes, with the rate somewhat higher for females. 25.1 percent of students had smoked two or more cigarettes per day on the days they smoked.
- Excessive Drinking Rate: 33.9 percent of students had their first drink of alcohol before age 13—this was especially true for males. 75.8 percent of students had had at least one drink during their life, with 40.9 percent having at least one drink in the past 30 days, and 24 percent having five or more drinks in a row on one or more days in the past 30 days. 5.7 percent of student had at least one drink of alcohol on school property in the previous month. Other Drug Use: 14.1 percent of students had tried marijuana before age 13. 42.4 percent of students had used marijuana one or more times in their life, while 23.8 percent had used it one or more times during the past 30 days.
- Overweight Rate: 31.1 percent of students described themselves as slightly or very overweight. The rate for females was higher than for males. 43.2 percent of students were trying to lose weight.
- Seatbelt Use Rate: 9.3 percent of students never or rarely wore seatbelts when riding in a car driven by somebody else, while 40.3 percent always wore seatbelts. The latter represents a decrease from 1993.[24]

5. Hawai`i's Health system.

a. Historical Influences. Hawai`i's current health care system and, to some degree, its overall health status are the legacies from the State's history as a kingdom, a

republic, and a territory. The kingdom provided medical care to the population through the *kahunas* (healers) who were supported by the early chiefs (*ali`i*). With the establishment of the plantations beginning in 1835, came a highly paternalistic model that guaranteed access to medical care through a system of salaried or contract physicians and plantation-owned hospitals. Plantation health care established principles that survive today: group and salaried practice by physicians; an acceptance by employers of the responsibility to provide health care to workers; capitated payment to providers; a focus on outpatient rather than inpatient services; and a short hospital length of stay.

Although some of the plantation hospitals eventually closed, others became private or county hospitals. The latter became the basis for what is today a system of hospitals on most of the Neighbor Islands that has been state-operated by the Department of Health.[25] In 1996, legislation was passed that established a "public corporation and body-politic of the State" to take over the Department's hospital system operations.[26]

b. Current System. Figures for 1996 show that Hawai`i had the 11th highest ratio in the nation of physicians per 100,000 population, while figures for 1995 show the state had the eighth lowest ratio nationwide of hospital beds per 1,000 population.[27] Hawai`i tends to have a greater proportion (50.4%) of physicians in primary care than the national average (34.0%), although the proportion has been declining somewhat. The preponderance of licensed health care providers is on O`ahu. Hawai`i Island has the lowest rates of physicians and registered nurses per 10,000 population. Maui County has the lowest rate of dentists, and shares with Hawai`i Island an equally low rate of pharmacists. O`ahu has the lowest rate of licensed practical nurses, and Kaua`i County the highest.[28]

The majority of acute care beds are located in Metropolitan Honolulu, with an occupancy rate of 67.42% and an average length of stay of 7.0 days. Occupancy rates for other acute care beds range from a low of 0.91% on Lana`i to 76.11% for Maui Island. Average length of stay ranges from 1.3 days on Lana`i to 5.8 days in Suburban Honolulu.[29] Metropolitan Honolulu is the major trauma center and the site of high-end tertiary care for the State.

A distribution pattern similar to acute care exists for skilled nursing and intermediate care beds, with nearly twice as many beds on O`ahu as the Neighbor Islands. Occupancy rates range from a high of 97.17% on Hawai`i Island to a low of 58.08% on Lana`i. Average length of stay ranges from a high of 361 days on Hawai`i to a low of 66 days on Moloka`i.[30]

Six sites in the State have been designated Health Professional Shortage Areas (HPSA) for primary care, with one of these sites also designated as HPSA for dental care. The primary care HPSA sites are Hana/Haiku (also Dental); Lana`i Island, Moloka`i Island; Puna; Ka`u; and Hamakua. Kalihi Palama and Kalihi Valley have been approved as a low-income population designation for HPSA. Puna and Ka`u have also been approved as Mental Health HPSAs, with Hamakua and Kohala approved as low-income population designations for Mental Health HPSA. Hilo, Puna, Ka`u, Hamakua, Kona, and Kohala have been approved as low-income population designations for dental HPSAs. Kokua Kalihi Valley, Waikiki, Waimanalo, and Wai`anae Coast Comprehensive health centers have been designated federally qualified health centers, while Bay Clinic-Hilo, Bay Clinic-Pahoa, and Kalihi-Palama Health Center have been designated as "look-alike." Hamakua Health Center has been designated a rural health clinic.[31]

Primary care service areas were assessed in 1998, using a quantitative measure of the health and socio-economic risk faced by the population as a proxy for measuring the level "need" for primary care services. The service areas showing the highest risk were Puna, Ka`u, Wai`anae, Hamakua, and Moloka`i.[32]

For purposes of health services planning and development, SHPDA has divided the State into six Subarea Health Planning Regions:

- Kaua`i County (Islands of Kaua`i and Ni`ihau)
- Honolulu (CT 1-66 on Island of O`ahu)
- West O`ahu (CT 67-100 on the Island of O`ahu)
  (formerly Central O`ahu and Wai`anae—effective 7/1/98)
- Windward O`ahu (CT 101-113 on the Island of O`ahu)
- Maui County—"Tri-Isle" (Islands of Maui, Moloka`i, Lana`i, excluding Kalawao County on Moloka`i)
- Hawai`i County (Island of Hawai`i)

**6. Hawai`i's Health Care Expenditures.** Hawai`i has been ranked 11th highest in the nation for state/local spending for health and hospital care as a percentage of personal income, and ranked 29th highest in health and hospital care spending as a percentage of general spending. Hospital expense per inpatient day was ranked as 24th highest in the nation.[33] Hawai`i's medical care inflation rate, as reflected by the Consumer Price Index (CPI) for urban Honolulu, was 1.8 percent in 1995, 2.5 times less than the U.S. rate. The rate reflects a decline from previous years, in part because of cost cutting measures adopted in recent years by the health care industry.[34] Nevertheless, hospitals in Hawai`i continue to experience costs and lengths of stays in excess of the national average. The Honolulu MSA earned a cost-effectiveness rank of 314 out of 315 in a 1996 study.[35]

Even though the Honolulu hospital referral region has fewer beds per capita than a benchmark hospital referral area, it exceeds the per capita ratios for hospital employees and price-adjusted expenditures. It also exceeds the ratio of active physician workforce per 100,000 residents in all 13 categories examined. These higher ratios have implications for health care costs.[36]

Although Hawai`i once enjoyed an estimated health insurance coverage rate of about 96 percent, that coverage has eroded with the declining economy. Current estimates of the uninsured rate place it at 10 percent, which amounts to approximately 110,000 individuals.[37] Uninsured children are considerable less likely to receive the health care they need. A recent study found that nearly two out of five children who were uninsured for longer than one year had no doctor visits during the year—more than twice the rate for uninsured children. This held true even for children under 5 years of age who most need routine immunizations and regular monitoring of their growth and development. Children living in families very near the poverty line—100-149 percent of federal poverty level—are most likely to be without insurance.[38]

E. What is the approach used for this plan?

This plan is an evolving design to allow flexibility in meeting community health care needs while promoting added value and accountability for results. Built through a participatory process, it presents broad principles for the design of effective and efficient health care

systems and identifies measures as indicators of successful system or network performance. Measures have been selected in the context of addressing access, quality, and cost-effectiveness and equity.

1. What are performance monitoring and benchmarking? Performance monitoring is the assembly of information from health care organizations that can be used to identify opportunities for improvement in operational and clinical practices. As health care groups measure each other's data, this comparison process can result in benchmarking, or the identification of "best practice." As the best performer of a group is identified, participants can potentially adapt practices that lead to the best outcome.

2. Why are performance monitoring and benchmarking important? These measures help document health care value. They:

- Identify key *performance gaps*;
- Recognize *ideas* from external organizations and identify *opportunities*;
- Focus *organization around key findings* and serve as a medium to expedite a consensus to move forward; and
- Most importantly, facilitate the implementation of ideas to yield better *quality products and services*.

These measures also support and promote quality improvement efforts. They:

- Create *objective measures of performance* that are driven by *best-in-class* targets instead of historical performances;
- Substantiate the *need for improvement*; and
- Establish a *data-driven decision-making* process.

3. What are the categories of performance monitors? Outcomes can be classified into several interconnected levels, ranging from the broadest level, which are community outcomes, through system outcomes, agency outcomes, and program outcomes to the most specific level—individual outcomes.[39] To the greatest extent possible, this plan has tried to maintain a focus on monitoring community and system outcomes. This approach allows more flexibility to communities, agencies, and programs to reach the desired outcomes by designing services appropriately for the targeted region or population. In some cases, the measures used may be indicators that collectively reflect a larger outcome or they may be short- or intermediate-range indicators of a longer-range outcome.

The health care delivery system performance monitors used in this plan have been organized into two categories:

a. Process Measures. These measures look at areas in the care process that may be thought of as the "steps to good care"[40] and that may be impacted by health care providers' practices or resources. Individual providers and carriers can influence these. The expectation is for measures to show improvement over time, particularly when the baseline is less favorable than national norms. In those cases where Hawai`i's experience is more favorable than the national norm, measures should show improvement or at least maintain the same relative level over time.

b. Outcome Measures. These measures look at the results of the "steps to good care." The expectation is improved health status or improved ability to maintain the activities of daily living with a chronic condition. Providers and carriers collectively can

influence these. The direction of change for the measures over time is the same as for the process measures—improvement in the less favorable rates and maintenance or improvement of more favorable rates.

In some cases, measures have been included for which there are no current national and/or local data available. However, these measures are considered so important to health care system accountability that they have been included anyway—with the expectation that, over time, collaboration and partnerships can begin to establish the necessary infrastructure for collecting the desired information.

It also is important to recognize that measures might be impacted by factors outside the health care system, such as the aging of the population, or increased immigration, etc. Such factors may offset improvements in performance by the health system, but they also offer a challenge to the system to adapt to an ever-changing environment.

F. What is addressed in this document and what is not?

This plan sets a broad policy umbrella governing the purpose, or "why," of establishing health services, facilities, or equipment and supporting local impact on health care delivery system design. Its driving focus is on access, quality, and value. It is not a program plan, nor does it attempt to micromanage what should be community-based responses to community health care needs. It also does not intend to duplicate other plans that exist in the public health sector. Rather, it provides a beginning point for communities and private health providers to collaborate more creatively with the public sector to achieve integrated care and desired health improvements.

This plan is a beginning, not an end. It signals the transition from a traditional fee-for-service focus on structure and inputs to an organized community-focused delivery system concentration on values and outcomes. It is a first effort to shift the design and accountability of the health care delivery system to the local level. The time frame for this plan is three to five years. This will allow time to establish baselines and to track measurement results over sufficient time to assess both the utility of the measures as well as the collective progress toward health status improvement. This plan is intended to be a living document, with periodic updates as new information and new technology become available and as priorities shift. Future versions of this plan may be able to allow for broadening the scope of the measures to include expenditure-related and consumer satisfaction categories, and selected per capita ratios to be tracked over time across medical disciplines.

Measures in this plan are specifically kept to a "performance measurement" level, rather than a "benchmark" or “best practices” level. The expectation is that future versions of this plan will be able to move closer to identifying benchmarks that are appropriate to the unique characteristics of this State and its resources combined with the advancing knowledge base in health care. It is also expected that future plans will benefit from enhanced grassroots input in the design and measurement processes.

Health has been defined by the World Health Organization as “a state of complete physical, mental, and social well-being, and not merely the absence of disease and infirmity.”[41] A number of health conditions—particularly chronic conditions—require integration of social and other community services as well as health care for achieving satisfactory outcomes. It

is also widely acknowledged that improvement of community health status requires a strong preventive approach, as well as the provision of quality treatment and rehabilitation. Solving some health problems will require collective community action around system-change, service, information/education, and regulatory strategies to bring about community health status improvement.

However, in keeping with the Agency's statutory responsibilities related to medical services and facilities, this plan uses measures that focus more on the delivery and results of medical care. Nevertheless, this plan can serve as a platform for communities to bring together public and private, state and local health care delivery constituents to address well-being and prevention needs. Communities can also use the plan to request collaboration in providing other health care services that are critical to the continuum of care in the community, but are not presently provided. At times, such services may be those which are not viewed as "money-making" by current providers. However, by spreading the risk through collaboration and partnerships, the services might be provided with reduced economic risk to the providers and increased positive health outcomes for the community members.

Many of the chapter subject areas of this plan are correlated to various degrees with other chapter subject areas. For this reason, the plan should be reviewed and addressed in its totality. To use this plan for developing a specific service or facility, one will need to "unbundle" the process and outcome measures to derive appropriate objectives, strategies and activities for the proposed project.

G. How is this document organized?

Chapter I presents the introduction, giving background and setting the stage for the approach used in the document.

Chapter II presents the Vision and Guiding Principles that serve as the foundation for the plan. This chapter also includes capacity threshold guidelines for selected health care services and equipment.

Chapter III presents the values and priorities of each of the SAC regions, as well as Statewide. Applicants for health care services, facilities, or equipment will need to respond to these values and priorities as part of their proposed design.

Chapters IV-XI present disease-specific or health condition areas that contribute the most to morbidity, mortality, years of productive life lost, and to lifelong health. These chapters include the measures by which the health care delivery system will be held accountable. Each chapter contains an overview, the sets of performance measures, community-specific issues impacting the measures, and priorities.

Glossary provides definitions of selected terms used in this document.

NOTES

[1] "Health care delivery system" means the formal structure and process for comprehensive delivery of health care managed and provided by a legal entity. From Joint Commission on Accreditation of Healthcare Organizations, *Assessing and Improving Community Health Care Delivery* (Oakbrook Terrace, IL: JCAHO, 1994) 139. As used in this plan, "health care delivery system" or "health care system" is used to mean both system and "health care network.'
[2] "Health care network" means the formal and informal relationships that exist between disparate health care providers. From JCAHO, op. cit., p. 139. As used in this plan, "network" is included in the meaning of the term "system."
[3] This section is drawn from discussions found in: S.M. Shortell, et al, *Remaking Health Care in America: Building Organized Delivery Systems* (San Francisco: Jossey-Bass Publishers, 1996); D.C. Coddington, K.D. Moore, E.A. Fischer, *Making Integrated Health Care Work* (Englewood, CO: Center for Research in Ambulatory Health Care Administration, 1996); W.A. Reinke, ed., *Health Planning for Effective Management* (New York: Oxford University Press, 1988); J.E. Rohrer, *Planning for Community Health Systems* (Baltimore: American Public Health Association, 1996); VHA/Deloitte & Touche, LLP, "Environmental Assessment: Redesigning Health Care for the Millennium—Executive Summary" (1997); JCAHO, op. cit.; S.K. Glazer, J.R. Gaintner, "Hospital Administrators in an Era of Change and Increasing Responsibility," in *Accountability and Quality in Health Care: The New Responsibility*, L.E> Markson, D.B. Nash, eds. (Oakbrook Terrace, JCAHO, 1995), 147-176l , Joint Commission on Accreditation of Healthcare Organizations, *National Library of Healthcare Indicators* (Oakbrook Terrace, IL: JCAHO, 1997).
[4] This section is drawn from discussions found in Shortell, op. cit.; Rohrer, op. cit.; American Hospital Association, "The National Community Care Network Demonstration Program," Grant Announcement, 1994.
[5] *State of Hawai`i Data Book – 1996*, Table 6.04.
[6] Data for this section taken from http://www.hawaii.gov/dbedt/popest/co9712.html; *State of Hawaii Primary Care Needs Assessment Databook—1998*, (Honolulu: Family Health Services Division, Hawaii Department of Health, February 1998).
[7] http://www.hawaii.gov/dbedt/popest/co9611.html.
[8] *Health Trends in Hawai`i: A Profile of the Health Care System* (Honolulu, Hawaii Medical Services Association Foundation, 1997), 88; http://www.hawaii.gov/dbedt/popest/co9611.html.
[9] *Hawaii Primary Care Needs Assessment Databook—1998*, op. cit.; US Census Bureau.
[10] All projections are from *Population and Economic Projections for the State of Hawaii to 2020*, DBEDT 2020 Series, May 1997.
[11] US Census Bureau 12/97 download; State of Hawai`i Data Book, Table 1.28 on-line.
[12] *State of Hawai`i Data Book—1996*, Table 13.03.
[13] *State of Hawai`i Data Book—1996*, Table 13.16.
[14] *Hawaii Primary Care Needs Assessment Databook—1998*, op. cit.
[15] *State of Hawai`i Data Book—1996*; Monthly Vital Statistics Report, No. 46, No. 1(S)2, September 11, 1997.
[16] *1998 Health Care Almanac & Yearbook*, D.B. Moskowitz, ed. (New York: Faulkner & Gray, Inc., 1998) 70-73.
[17] *CQ's State Fact Finder 1998: Rankings Across America*, KA and HA Hovey, eds. (Washington, D.C.: Congressional Quarterly, 1998), 224.
[18] Based on data from *Healthy People 2000 Review 1995-96,* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics, 1997; "1997 Surveillance Summary," Hawai`i Department of Health, http://www.hawaii.gov/health/cddr/cdrsurv.htm, 8/3/98; *Monthly Vital Statistics Report,* Vol. 45, No. 11(S), June 10, 1997; *Monthly Vital Statistics Report*, Vol. 46, No. 1(S)2, September 11, 1997; National Center for Health Statistics, *Health, United States 1996-97 and Injury Chart Book*, U.S. Department of Health and Human Services, Hyatsville, Maryland, 1997; and Office of Health Status Monitoring, *Vital Statistics Report, 1996,* Honolulu, Hawai`i: Department of Health, 1998.
[19] *Vital Statistics Report, 1996, op. cit.*
[20] *Vital Statistics Report, 1996, op. cit.*
[21] Except as noted, the following discussion on chronic and acute conditions and activity limitations is based on 1992 data adapted from Xia H, Kong VL, et al. *Health Surveillance Survey, Report for Years 1989-1992*. R&S

Reports; issue no. 62. Honolulu, Hawai`i: Office of Health Status Monitoring. 1996.
[22] *State of Hawaii Data Book—1996*-on-line Table 2.18a.
[23] *Hawai`i's Health Risk Behaviors—1993*, (Honolulu, Hawai`i Department of Health, May 1996); *State of Hawai`i Data Book—1996*, Table 2.22.
[24] *1995 Hawaii Youth Risk Behavior Survey Report* (Honolulu, Comprehensive School Health, Department of Education, June 1996).
[25] This discussion drawn from E. Friedman, *The Aloha Way: Health Care Structure and Finance in Hawaii* (Honolulu, Hawaii Medical Service Association Foundation, 1993), viii-ix.
[26] Conference Committee Report No. 91, April 26, 1996, p. 1.
[27] *CQ's State Fact Finder,* op. cit., 231-232.
[28] *Health Trends in Hawai`i: A Profile of the Health Care System*, op. cit., 98-99.
[29] State Health Planning and Development Agency, *1997 Utilization Report* (Honolulu, SHPDA, 1998), 38-39.
[30] Ibid., 43-44.
[31] *Hawaii Primary Care Needs Assessment Databook—1998*, op. cit.
[32] Ibid.
[33] *CQ's State Fact Finder*, op. cit., 235-236, 241.
[34] *Health Trends in Hawai`i: A Profile of the Health Care System*, op. cit.
[35] "The Impact of Managed Care on U.S. Markets," KPMG Peat Marwick LLP Educational Series, Health Care & Life Sciences, 1996.
[36] The Center for the Evaluative Clinical Sciences, Dartmouth Medical School, *The Dartmouth Atlas of Health Care (*American Hospital Publishing, Inc, 1996).
[37] B. Geisting, Executive Director, Hawaii State Primary Care Association, personal communication.
[38] Center on the Family, University of Hawai`i at Manoa, *Hawai`i Kids Count 1997 Data Book*.
[39] Ke Ala Hoku, informational presentation, July 1998.
[40] Foundation for Accountability, *Organizing for Quality* (Portland, OR: FACCT, 1997).
[41] *Taber's Cyclopedic Medical Dictionary* (Philadelphia: F.A. Davis Company, 1993), 850.